

Chapter 4

Alphabetical

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Introduction

All items in this chapter are listed alphabetically. All buttons, option buttons, check boxes, selection lists, input boxes, concepts, hardware components, and terms are included.

All buttons are capitalized. If an item is an option button, check box, or selection list, it is labeled as a selection along with where it appears.

Unlabeled items are descriptions of general concepts.

Alphabetical Reference List

of Lanes

Entry box at the **Lane Template Parameters** window. Specify the number of lanes in the template. The maximum number is 50.

% of Maximum

Selection at the **Lane Group Report Option** window. Reports the counts in each region in the lane as a fraction of the total counts of the maximum region in the lane.

% of Sum of Regions

Selection at the **Lane Group Report Options** window. Reports the counts in each region in a lane as a fraction of the sum of the activity in all regions in the lane.

% of Sum of Regions

Selection at the **Region Group Report Options** window. Reports the counts in each region as a fraction of the sum of the activity in all regions of the group.

% of Total (ROI)

Selection at the **Region Group Report Options** window. Reports the counts as a fraction of the total counts of the entire image or of a ROI if one exists.

% of Total Lane

Selection at the **Lane Group Report Options** window. Reports the counts as a fraction of the total counts in the lane.

2D Rf

Selection at the **Region Group Report Options** window. Reports the 2D Rf values as a %. Grayed inactive when no 2D Rf region has been defined.

2D Rf: Front 1

Entry box at the **Edit Group of Regions** window. Enter the distance of the first front from the location of the two origins. Front 1 is limited to values of +240 to -240. You can edit the distance of the first front numerically or graphically.

2D Rf: Front 2

Entry box at the **Edit Group of Regions** window. Enter the distance of the second front from the location of the two origins. Front 2 is limited to values of +240 to -240. You can edit the distance of the second front numerically or graphically.

2D Rf: Orientation

Entry box at the **Edit Group of Regions** window. Enables you to adjust the orientation of the 2D Rf region if the sample is not placed in the instrument with a precise horizontal-vertical orientation. The orientation is limited to values -360° to $+360^{\circ}$. You can edit the orientation of the 2D Rf region numerically or graphically.

2D Rf: Origin X

Entry box at the **Edit Group of Regions** window. Enter the X location on the image of the two origins. The X location is limited to values 0-240. You can edit the X location numerically or graphically.

2D Rf: Origin Y

Entry box at the **Edit Group of Regions** window. Enter the Y location on the image of the two origins. The Y location is limited to values 0-240. You can edit the Y location numerically or graphically.

ABOUT

Button at some printer windows. Displays the name and version of the default printer.

Accelerator Keys

Combination of keys which can be used to activate program functions quickly from the keyboard.

ACCEPT

Button at the **Find Regions** window. This selection is grayed (inactive) until a set of regions has been previewed. When you choose **ACCEPT**, the currently previewed regions will become a permanent part of the template and the **Find Regions** window will close. If any regions already exist for this group of regions, a window will appear asking if the previously existing regions in the selected ROI should be deleted. Select **YES** to delete all regions that exist within the ROI. Select **NO** to retain all regions that exist within the ROI. Select **CANCEL** to terminate the process and return to the **Find Regions** window.

Acquired

Display at the **Image Information** window. Represents the date and time the image was acquired.

ADD

Button and the **Mark Standard** window. Displays the **Add Standard to List** window. Enables you to add standards (including molecular weight and comment) to the default list.

ADD

Button at **Add Standard to List** window. Adds the standard (molecular weight and comment) to the list.

Additional Time [hours]

Entry at the **Acquisition Continue Parameters** window. Enter the number of additional hours you want the acquisition to run.

Additional Time [min]

Entry at the **Acquisition Continue Parameters** window. Enter the number of additional minutes you want the acquisition to run.

Airbag

The airbag fits comfortably on the sample plate. A silk screened image of the grid that appears on the sample plate also appears on the airbag. Place the sample directly on the airbag.

ALL

Button at some windows. Enables you to select all the items listed in the window.

Annotations

Text or graphic overlays that can be created with Annotation Tools to document images. These overlays have no effect on the image data, and are not used for analysis. Use Analysis Templates for analysis.

Annotation Area

Located in the tool box (**InstantImager** window). The Annotation area contains the Pencil, Arrow, Text Tool, and Eraser.

The Pencil (pencil icon) enables you to draw line segments and arbitrary traces. The Arrow (arrow icon) enables you to draw arrows that point to specific items of interest on the image. The text tool (alpha icon) enables you to write comments upon the image. The Eraser (eraser icon) enables you to erase annotations.

Annotation Color

Selection at the **User Preferences** window. Several annotations can be present on an image. The selected annotation ("Selected") is displayed in a highlighted color while the remaining annotation(s) ("Other") are displayed in a dimmed uniform color.

To specify a color, click on the appropriate **EDIT** button; then select a color at the **Color** window. Select **OK** to save the setting. The current colors for annotations are indicated by the colors of the words "Selected" and "Other."

Annotation Text

Entry box at the **Text Annotation** window. Enter the comment you want to appear over the image.

ARRANGE ICONS

Button at the **Task List** window. Evenly arranges applications running as icons in the window.

Arrow Tool

Located in the Annotation Area of the tool box (**InstantImager** window). The Arrow (arrow icon) enables you to draw arrows that point to specific items of interest on the image.

Background

Selection at the **Find Regions** window. Enables you to determine the amount of background on the image. This background amount will be subtracted from every pixel in the region.

Background Subtract

Selection at the **Lane Group Report Options** window. Select this option and then one of the highlighted background subtracting methods below. With both methods the background value in CPM/mm² will be multiplied by the area of each region. This product will be subtracted from the CPM in the region.

Background Subtract

Selection at the **Region Group Report Options** window. Select this option and then one of the highlighted background subtracting methods below. With both methods the background value in CPM/mm² will be multiplied by the area of each region. This product will be subtracted from the CPM in the region.

Background Subtract: Background Region

Selection at the **Grid Report Options** window. The background subtraction is determined by the CPM/mm² of the background region(s). This selection is grayed inactive if no background regions have been defined for the grid template.

Background Subtract: Background Regions

Selection at the **Lane Group Report Options** window. Select this option to determine the background from a region or regions defined as background within each lane. The background value will be the sum of the CPM in the background regions divided by the total area of the regions. If no background regions exist, the amount of background subtraction will be 0.

Background Subtract: Background Regions

Selection at the **Region Group Report Options** window. Select this option to determine the background from a regions or regions defined as background. The background value will be the sum of the CPM in the background regions divided by the total area of the regions. If no background regions exist, the amount of background subtraction will be 0.

Background Subtract: Cells

Selection at the **Grid Report Options** window. The background subtraction is determined by the CPM/mm² of the background cells. This selection is grayed inactive if no background cells have been defined for the grid template.

Background Subtract: Constant (CPM/mm²)

Selection at the **Grid Report Options** window. Enter the value for the amount of background subtraction in terms of CPM/mm².

Background Subtract: Constant (CPM/mm²)

Selection at the **Lane Group Report Options** window. Select this option and enter a numerical value in CPM/mm².

Background Subtract: None

Selection at the **Grid Report Options** window. Indicates that no background subtraction is to be done. When this option is selected, the "Net Counts" and "Net CPM" report options are grayed inactive.

Bitmap

A data structure created by the computer to map (chart, graph, plat, sketch, delineate, draw, trace, picture) specific colors or intensity levels to individual pixels on the display to create an image. The appearance of this map on the display screen depends on the display palette.

Borderline [%]

Entry box at the **Grid Report Options** window. Enter the borderline value, expressed as a percentage of the threshold value. CPM values that are within the borderline of the threshold are assigned a "?".

BROWSE

Button at some windows. Displays a selection list from where you can select a protocol file or template file for example.

CANCEL

Button found at most windows. Aborts the operation and closes the window.

CASCADE

Button at the **Task List** window. Causes the windows to overlap so that each title bar is visible.

Cell Diameter (in mm)

Entry box at the **Grid Template Parameters** window. Specify the diameter of the circular cells in the grid (if circular cells are selected). The diameter of the cells is measured in millimeters.

Cell Format: Error

Selection at the **Grid Report Options** window. The statistical counting error as a % is reported.

Cell Format: Gross Counts

Selection at the **Grid Report Options** window. The total counts in the cells are reported.

Cell Format: Gross CPM

Selection at the **Grid Report Options** window. The total counts per minute in the cells are reported.

Cell Format: Net Counts

Selection at the **Grid Report Options** window. The total counts minus the calculated background for each cell are reported. This option is grayed out when "Background Subtraction" is set to "None."

Cell Format: Net CPM

Selection at the **Grid Report Options** window. The total counts per minute minus the calculated background for each cell are reported. This option is grayed out when "Background Subtraction" is set to "None."

Cell Format: Threshold

Selection at the **Grid Report Options** window. The output of each cell is set to "+" or "-" depending on whether the CPM in the cell is greater than or less than the threshold parameter you indicate.

Cell Width (in mm)

Entry box at the **Grid Template Parameters** window. Specify the width of the rectangular cells in the grid (if rectangular cells are selected). The width of the cells is measured in millimeters.

Cell Height (in mm)

Entry box at the **Grid Template Parameters** window. Specify the height of the rectangular cells in the grid (if rectangular cells are selected). The height of the cells is measured in millimeters.

Cells: Circular

Selection at the **Grid Template Parameters** window. Select this option to create circular cells in the grid. You must specify the diameter of the circular cells.

Cells: Rectangular

Selection at the **Grid Template Parameters** window. Select this option to create rectangular cells in the grid. You must specify the width and height of the rectangular cells.

Center-to-Center Spacing: Column, Row

Entry boxes at the **Grid Template Parameters** window. Specify the spacing of the columns and rows in the grid (the spacing is measured in millimeters).

Centroid

The center of gravity of the counts in a region.

Centroid Position (X, Y)

The coordinates (in mm) of the centroid of the counts in a region.

Change cell size with grid spacing

Selection at the **Grid Template Parameters** window. Select the check box to have the size of the cells change when you edit the overall size of the grid graphically. The proportion of the cell size to the spacing is maintained in the modified dimensions.

Clipboard

The temporary storage facility in Windows, that can be used to transfer results directly to other applications.

Colors

Selection at the **Display** window. Displays variations of intensity in the palette in increments of color (pseudo color).

Comment

Entry box at some window. Comments are generally printed when results are reported with each template. They can be used to describe the protocol.

Comment

Entry box at the **Add Standard to List** window. Enter a brief comment that identifies the standard. Used in the default list only.

Comment

Entry box at the **Edit Lane Points** window. Enter a brief comment that identifies the standard. Used in the default list only.

Control Menu

The menu activated by the rectangle in the upper left corner of windows and dialog boxes that controls that window or box. Press **<Alt>-space** to see the menu for the active window (with the highlighted title bar) or click on the rectangle. Double click on the rectangle to close the window or anywhere outside the drop-down list.

COPY

Button at the **Edit Lane Points** window. Copies the selected molecular weight to the selected lane point. Enables you to selectively update the molecular weight of the lane points.

COPY ALL

Button at the **Edit Lane Points** window. Copies the list of molecular weight standards to the lane points. The first standard in the list is copied to the first point in the lane, the second standard in the list is copied to the second lane point in the list, etc. Enables you to globally update the molecular weight of the lane points.

Counting Error

The statistical error expected due to estimating the activity present by counting a finite number of disintegrations. Two times the standard deviation (2 sigma) is reported as a percentage of the number of counts - $200/n^{1/2}$, where n is the number of counts.

Counting Method: Count Indefinitely

Selection at the **Edit Acquisition Protocol File** window. Select this option to have the system count the sample indefinitely. The system will process the sample until you intervene and halt the process.

Counting Method: Count Indefinitely

Selection at the **Edit Current Protocol** window. Select this option to have the system count the sample indefinitely. The system will process the sample until you intervene and halt the process.

Counting Method: Preset Counts

Selection and input box at the **Edit Acquisition Protocol File** window. Select this option to specify the number of counts the system will collect over the entire image or over a preset region. Once the specified number of counts have been collected, the system will stop the imaging process and display the full image on the screen.

Counting Method: Preset Counts

Selection and input box at the **Edit Current Protocol** window. Select this option to specify the number of counts the system will collect over the entire image or over a preset region. Once the specified number of counts have been collected, the system will stop the imaging process and display the full image on the screen.

Counting Method: Preset Time (hours)

Selection and input box at the **Edit Acquisition Protocol File** window. Select this option to specify the exact number of hours the imaging process should take. Once the exact number of hours (and/or minutes) have transpired, the imaging process will stop and the image is displayed on the screen.

Counting Method: Preset Time (hours)

Selection and input box at the **Edit Current Protocol** window. Select this option to specify the exact number of hours the imaging process should take. Once the exact number of hours (and/or minutes) have transpired, the imaging process will stop and the image is displayed on the screen.

Counting Method: Preset Time (min)

Selection and input box at the **Edit Acquisition Protocol File** window. Select this option to specify the exact number of minutes the imaging process should take. Once the exact number of minutes (and/or hours) have transpired, the imaging process will stop.

Minutes are expressed in decimal form. As you enter a number, the minutes are placed to the left of the decimal point; fractions of a minute are placed to the right of the decimal point. For example, when you enter **5.3**, the image would process for five and 3/10 minutes.

Counting Method: Preset Time (min)

Selection and input box at the **Edit Current Protocol** window. Select this option to specify the exact number of minutes the imaging process should take. Once the exact number of minutes (and/or hours) have transpired, the imaging process will stop and the image is displayed on the screen.

Minutes are expressed in decimal form. As you enter a number, the minutes are placed to the left of the decimal point; fractions of a minute are placed to the right of the decimal point. For example, when you enter **5.3**, the image would process for five and 3/10 minutes.

Counts: CPM

Selection at the **Lane Group Report Options** window. Divides the total counts in the regions by the counting time.

Counts: CPM

Selection at the **Region Group Report Options** window. Divides the total counts in the regions by the counting time.

Counts/mm²

Selection at the **Lane Group Report Options** window. Divides the total counts in the regions by the total area covered by the region.

Counts/mm²

Selection at the **Region Group Report Options** window. Divides the total counts in each region by the area of the region in mm².

CPM/mm²

Selection at the **Lane Group Report Options** window. Divides the CPM of the regions by the total area covered by the region.

CPM/mm²

Selection at the **Region Group Report Options** window. Divides the total counts per minute in each region by the area of the region in mm².

Counts: Total Counts

Selection the the **Lane Group Report Options** window. Reports the sum of all counts in all the pixels within the regions.

Counts: Total Counts

Selection at the **Region Group Report Options** window. Reports the sum of counts in the pixels within the regions.

Crop Image

Function available from the **Transform** menu. Allows you to crop an image so as to only display the area of the image you are most interested in. In this way, multiple samples can be counted together and then separated into individual files.

You cannot save a cropped image to the original filename. If you attempt to save the file, the system will automatically display the **Save As** window. You must specify a unique filename for the cropped file at this window.

A cropped image will have a reduced file size.

To crop an image:

- ☐ Select **Crop Image** from the **Transform** menu. The moused pointer will become a corner bracket.
- ☐ Move the bracket to the upper left corner of the region you want to identify.
- ☐ Press the left mouse button. A similar corner bracket will appear to mark the lower right corner of the region you want to identify.
- ☐ Continue to press the left mouse button and drag the bracket. A rectangle will enclose the selected region. Release the left mouse button. The system will crop out the areas of the image not enclosed in the rectangle.

If you press the **<Shift>** key while moving the mouse, you can move the rectangular region on the image.

Press **<Esc>** any time before releasing the left mouse button to abort the process.

Current Protocol

Selection at the **Which Protocol to Edit** window. Select this option to edit the current acquisition. Displays the **Edit Current Protocol** window.

Cumulative Acquisition

Selection at the **Edit Time Series** window. Select this option when you do NOT want the images cleared between intervals of a Time Series Acquisition (see page R200). Later images are an accumulation over all previous intervals in the series.

CURVE

Button at the **Mark Standard** window. Displays the **Molecular Weight Standard Curve** window. Enables you to display the standard curve based on the selected curve fitting method and axis transformation.

Curve Fit: Linear

Selection at the **Standard Curve Parameters** window. Uses the linear curve fitting method to draw the standard curve.

Curve Fit: Quadratic

Selection at the **Standard Curve Parameters** window. Uses the quadratic curve fitting method to draw the standard curve.

Curve Fit: Cubic

Selection at the **Standard Curve Parameters** window. Uses the cubic curve fitting method to draw the standard curve.

Curve Fit: Spline

Selection at the **Standard Curve Parameters** window. Uses the spline curve fitting method to draw the standard curve. Spline is the default.

Custom

Selection at the **Display** window. When selected, activates the **EDIT** button. Selecting **EDIT** displays the **Custom Palette** window. This window enables you to control the shape of the palette. The palette is the series of colors or shades of gray that can be displayed by the computer screen to represent color codes or image intensity levels in the computer screen bitmap.

DEFAULT SETTINGS

Button at the **Rescale Bitmap** window. Check this box to set the maximum and minimum intensity values to the default values chosen automatically by the InstantImager to scale to whole image.

Default Tag Position: Right, Left, Above, Below, Center

Selections at the **Edit Group of Regions** window. Select the placement of the tag relative to each region: to the Right, Left, Above, Below or Center.

DELETE

Button at the **Mark Standard** window. Deletes the highlighted standard.

DELETE

Button at the **Users Images** window. Enables you to delete the selected image.

Detector

The InstantImager electronically detects beta particles, Auger electrons, or Compton electrons by gas avalanche detection. The detector consists of a 20cm X 24cm laminated pre amplification-collimation plate through which thousands of holes have been drilled.

Electrons from Phosphorus-32, Phosphorus-33, Carbon-14, Sulfur-35, Iodine-125 on a flat sample pass through a thin plastic film covering the face of the detector and produce ionizations in a counting gas within the holes. The number of electrons is amplified in an electronic field in the holes, and the position of the electrons which emerge from the other side of the holes is determined by a multiwire chamber and fast digital electronic circuitry. An image of these positions is displayed on the computer screen in real time.

Directories

Selection list at some windows. Select a different directory by clicking on a directory in the list.

Directory

Entry box at the **User Information** window. Enter the directory path that will contain the acquired images for the specified user.

Display 2D Rf

Selection at the **Edit Group of Regions** window. If you wish to perform 2D Rf analysis, you must select the "Display 2D Rf" checkbox. Once selected, all the other items in the 2D Rf section of the window will become active (grayed out otherwise). These options allow you to define the location and orientation of the two origins and fronts.

Display Area

Located in the tool box (**InstantImager** window). The Display area contains the Pointer icon, the Magnifying Glass icon, and the Hand icon.

Use the Pointer tool to select and edit objects on the image. Use the Magnifying Glass tool to magnify (zoom) and demagnify the image. Use the Hand tool to move the image around the screen.

Display Palette

The series of colors or shades of gray that can be displayed by the computer screen to represent color codes or image intensity levels in the computer screen bitmap.

Disk Allocation

The quota or amount of disk space allocated to a user account. A user who exceeds the allocation in their user directory will be warned when they save image files that they have exceed their allocation and should delete or back up to disk (archive) some files.

Disk Space Used [Kilobytes]

Located at the **User Information** window. Displays the space in kilobytes that the user is currently using to store data in the specified directory.

Distance From the Origin

Selection at the **Lane Group Report Options** window. Reports the distance from the origin line of the centroid of the counts of the regions. The distance is reported in millimeters.

Drives

Selection list at some windows. Select a different drive by optionally clicking on a drive in the list.

Dynamic Range

The maximum signal that can be quantitated without saturation divided by the smallest signal that can be detected.

EDIT

Button at the **Acquisition Start Parameters** window. Displays the **Edit Current Protocol** window. Enables you to change protocol parameters that affect the current acquisition only.

EDIT

Button at the **Imager Users** window. Select a user from the list, and click on the **EDIT** button to display the **User Information** window. At this window you can change the name of the user's Imager icon, the user's directory, or the user's quota.

EDIT

Button at the **User Preferences** window. Displays the appropriate **Color** window. Use the **Color** window to change the color of templates, annotations, and the helpline.

Edit Time Series

Menu item on the **Acquisition** menu. Enables you to access the **Edit Time Series** window to modify the Time Series mode parameters.

Editing Handles

Graphical elements on objects on the display over which the Pointer tool can activate certain editing functions. The Pointer will change to a different cursor over the handles to indicate the function.

EDIT USER

Button at the **System Operator** window. Displays the **User Information** window. Enables you to edit information about the user selected from the list.

Elapsed Time

Display at the **Image Information** window. The total count time taken to acquire the image.

Enable Time Series

Selection at the **Edit Time Series** window. Mark this selection when you want to perform Time Series Acquisitions with this user. The Time Series mode will be used for all acquisitions of this user until you specifically disable the mode again.

END TASK

Button at the **Task List** window. Ends the application that is currently highlighted in the list.

Enhance

Selection at the **File Export** window. Amplifies areas of low activity and smooths the edges of features in the exported image. Smoothing helps to minimize the “blocky” appearance of some images.

The default selection (when “Enhance” is NOT checked) improves the resolution of the image. For example, what appears as one indefinite form on the screen appears as two distinct forms on the exported image.

Enhance

Selection at the **Print** window. Amplifies areas of low activity and smooths the edges of features in the printed image. Smoothing helps to minimize the “blocky” appearance of some printed images.

The default selection (when “Enhance” is NOT checked) improves the resolution of the printed image. For example, what appears as one indefinite form on the screen appears as two distinct forms on the printout.

Eraser Tool

Located in the Annotation Area of the tool box (**InstantImager** window). The Eraser (eraser icon) enables you to erase annotations.

Export Area: Entire Image

Selection at the **File Export** window. Select this option to export the entire displayed image.

Export Area: Selected Region

Selection at the **File Export** window. Select this option to export a selected region of the image. The system enables you to draw a rectangle on the image when you leave the window. The portion within the rectangle is exported.

Export to Clipboard

Selection at the **File Export** window. Select this check box to export the image to the Windows Clipboard, rather than to a file.

Files

Selection list at some windows. Select a different filename by clicking on a filename in the list. The system will load the file selected from the list.

FILES

Button at the **Imager Users** window. Select a user from the list and click on the **FILES** button to display the **Users Images** window. This window enables you to perform basic file operations on the image files of a selected user.

Filename

Entry box at some windows. Enter the filename of the selected file. The system will automatically include the extension of the filename.

Filename

Entry box at the **File Export** window. Enter the filename to which the image will be exported. The correct extension (suitable for the selected file format) is added automatically.

Filenames of the selected type on the current directory will be listed below this box. Select one of these filenames to enter it in the Filename box.

Font

Selection list at the **Font** window. Select a font by clicking on the font name in the list. An example of the font is displayed in the Sample area of the window.

FONT

Button at the **Text Annotation** window. Displays the **Font** window. This window enables you to select the font, font style, and size of the text characters.

Font Style

Selection list at the **Font** window. Select a suitable font style by clicking on the style name in the list. An example of the font style is displayed in the Sample area of the window.

Gray

Selection at the **Display** window. Displays variations of intensity in the palette in shades of grey.

Grid: #Cols, #Rows

Entry boxes at the **Grid Template Parameters** window. Specify the number of columns and rows in the grid.

Handles

Graphical elements on objects on the display over which the pointer tool can activate certain functions. The pointer will change to a different cursor over the cues to indicate the function.

Heavy

Selection at the **Smooth Parameters** window. Applies a significant amount of smoothing to the image.

Height (mm)

Entry box at the **Edit Region** window. Edit the height of a rectangle or ellipse. This box is blank when the region is irregular. The height of the region is measured in millimeters.

HELP

Button at some windows. Displays online documentation that describes the function of the current window.

Help

Selection on the title bar. Provides access into top level online documentation.

Helpline Color

Selection at the **User Preferences** window. The helpline is at the bottom of the **InstantImager** window and displays information about areas of the screen and functions you are performing.

The current color of the helpline is indicated by the colors of the words "Helpline Color." Choose the **EDIT** button next to these words to open the **Color** window where you can change the color of the helpline.

High Resolution

Function available from the **Transform Image** menu. Converts the image to a high resolution display or returns the image to a normal display. A checkmark (✓) will appear next to this section when the image is in high resolution mode.

When an image is converted to high resolution mode, each pixel is broken up into four pixels. To reflect the drilling pattern of the detector, every other column will be shifted by 0.25mm (one high resolution pixel).

The number of counts in the original single pixel is divided among four pixels. The counts will not automatically be equally divided among the four pixels. Instead, the values of the surrounding pixels will be used to determine the distribution of the counts among the four pixels. The counts will be shifted to the pixels which are closer to higher surrounding pixels.

When converted to high resolution mode, the magnification of the image will be maintained. However, the "Display Max/Min" will be adjusted to reflect the distribution of the counts.

If any templates exist on the image, you will be warned that all templates will be deleted when the transformation is performed. Selecting **OK** will cause the templates to be deleted and the transformation to proceed. Selecting **Cancel** will terminate the change in display mode and return you to the image.

Image File

Entry box the the **Acquisition Start Parameters** window. Enter the name of the image file. Select the drop-down arrow to select an image file from the list.

Time Series Acquisitions (see page R200) use an incrementing file name format. A two digit incrementing number is appended to the first six characters (or less) of the name that is entered here. The system will search the disk to find the next available number to be used with this filename.

If you acquire more than the 100 files provided by the Time Series numbering scheme, additional images will be saved to the name "Untitled.img". Obviously, in this case, only the last image file is available under this name.

Image Filename

Display at the **Acquisition Continue Parameters** window. The filename of the image currently being acquired.

Imager.ini

A file in the main imager directory or in a user directory in which the program parameters are stored.

Include Profile (1D) Regions

Selection at the **File Export** window. When you select this checkbox, any profile (1D) regions in the area will be included in the export. You can only export an image when the 2D image has the focus. When the 2D image has the focus, the profile (1D) regions are not displayed on the image.

Include Profile (1D) Regions

Selection at the **Print** window. When you select this checkbox, any profile (1D) regions in the area will be included in the printed image.

Individual Acquisition

Selection at the **Edit Time Series** window. Select this option when you want the images cleared between intervals of a Time Series Acquisition (see page R200). With this option, each image represents ONLY one time interval.

Instance

The InstantImager program can be launched from an icon on the Start Menu or Program Manager, even when it is already running in another window. Each active InstantImager program is an instance of the program. An instance of the program can be launched to view or analyze a stored image while another instance of the program is acquiring an image.

Interval (Save Image Every)

Selection at the **Edit Time Series** window. This is the interval to be used for the Time Series Acquisitions (see page R200). You can enter a value between one minute and 540 hours in any combination of hours and minutes. When you change fields, the hours and minutes will be recalculated to display in proper notation.

InstantImager

The InstantImager is a fully automated system which quantifies radioactivity distributed on flat samples. The system is designed to process and display images for which levels of radioactivity or molecular weight are required.

The InstantImager is an electronic alternative to autoradiography on film or phosphor screens. It provides much faster and more precise results than these methods.

The heart of the InstantImager is the patented microchannel array detector providing extremely efficient high-resolution radioactivity detection.

The imaging area of the instrument's detector is 20 X 24 centimeters and represents the maximum area of the sample the detector can cover. Any portion of a sample that exceeds this dimension will not be counted.

Example applications include:

- Gels and blots.
- Tissue sections.
- TLC plates.

Samples can be labeled with Phosphorus-32, Phosphorus-33, Carbon-14, Iodine-125, and Sulfur-35. A sample that would normally take overnight to see with X-ray film, can be imaged in just a few minutes. The instrument increases your laboratory productivity by reducing the time to get results.

Intensity Levels of Display

Selection at the **User Preferences** window. The palette that displays the bitmap can contain up to 240 colors or shades of gray. If the number of colors is set for less than 240, there can be more than one instance of the InstantImager program running with independent display palettes.

Set the Intensity Levels at 240 if you do not expect to view images in more than one instance of the InstantImager at once.

Set the Intensity Levels at 120 if you want to be able to view two images simultaneously in separate instances of the program with independent display palettes.

Intensity Levels of Palette

Display at the **Rescale Bitmap** window. The number of color levels used to display the image. This number can be set in the **User Preferences** window.

Intensity Range in Image

Display at the **Rescale Bitmap** window. The minimum and maximum counts per pixel in the image.

Intensity Range of Current Bitmap

Display at the **Rescale Bitmap** window. The minimum and maximum intensities that can be displayed. The intensities within this range that are actually displayed depend on the display palette.

Intensity Range of Current Palette

Display at the **Rescale Bitmap** window. The minimum and maximum intensities displayed by the current display palette. This range corresponds to what you currently see in the display.

Inverted

Selection at the **Display** window. Inverts the palette. The palette normally changes from white to black with increasing image intensity or counts.

Label

Entry box at the **Edit Region** window. Edit the label assigned to the current region.

Label Box

Displayed in the template bar of the **InstantImager** window. Enables you to assign a name to the highlighted lane or region; useful for reporting purposes.

Lanes

Entry box at the **Lane Group Report Options** window. Select the lanes to be profiled or reported by highlighting the lane numbers in the box. If the entire lane template is the selected template object when the window is opened, all the lanes will be highlighted. If an individual lane is the selected template object, the lane will be highlighted.

Click on a single lane number with the left mouse button, or drag the mouse over a range of numbers to select the range. Select **ALL** to highlight all the lanes. Use the **<Ctrl>** key along with the left mouse button to select any combination of lanes.

Lane Drop-Down Menu

Located in the template bar of the **InstantImager** window. When a lane template is selected, displays the name of the lane that is currently highlighted. Select the drop-down arrow to display a list of lanes; select a lane from the list.

Lane Labels

Selection at the **Lane Group Report Options** window. Reports the labels (if any) entered to identify the lanes listed in the template bar.

Lane Point

A lane point can be a region or band mark designated as an unknown, a background, or a standard. Lane points designated as standards are assigned molecular weights.

Lane Spacing (mm)

Entry box at the **Lane Template Parameters** window. Specify the spacing of the lanes (the spacing is measured in millimeters).

LED Lights

Light Emitting Diode lights on the front panel of the instrument: 1) Power light, 2) Count light, 3) Error light.

The power light remains lit when the instrument is turned on. The light goes out when the instrument is turned off.

The count light remains lit while an image is being acquired.

The error light remains lit if an error occurs, such as a jammed sample tray.

Length: Long

Selection at the **Edit Arrow** window. Select this option to exaggerate the normal length of the arrow.

Length: Normal

Selection at the **Edit Arrow** window. Select this option to display the standard length arrow.

Length: Short

Selection at the **Edit Arrow** window. Select this option to shorten the normal length of the arrow.

Library Protocol

Selection at the **Which Protocol to Edit** window. Select this option to edit the permanent copy of the protocol on the hard disk. Displays the **Edit Acquisition Protocol File** window.

Light

Selection at the **Smooth Parameters** window. Applies a minimal amount of smoothing to the image.

Linear

Selection at the **Display** window. Provides a linear relationship between the increments of color and the intensity of the image.

List Files of Type

Selection list at the **File Export** window. Select the appropriate type of file format. Select the drop-down arrow to see the list of available file formats. Select one of these file formats from the list.

LOAD MW STANDARDS

Button at the **Lane Template Parameters** window. Displays the **Load Standards File** window.

Magnification: Actual Size

Selection at the **Print** window. Prints the image with the dimensions of the actual sample size. Images printed on transparencies can be overlaid on the radioactive sample to locate labeled regions.

Magnification: Variable Size

Selection at the **Print** window. Prints the image at the percentage of magnification indicated in the box. The image can be printed within a user-specified range of $\frac{1}{4}$ (25%) of the actual sample size to 4X (400%) the actual sample size.

To indicate the percentage of magnification, you can 1) enter the value into the box, or 2) select the up or down arrows (adjacent to the box) to increase or decrease the value.

If the image is too large for the printed page, due to its magnification (over 100% of the actual sample size), only the upper left hand section of the image or of the selected region of the image will be printed.

Note that selecting a variable size of 100% is the same as selecting "Actual Size."

Mark Preset Region

Selection at **Edit Current Protocol** window. Enables you to draw a region on the image. The mouse pointer becomes a corner bracket when you select **OK**. Use the bracket to draw the region.

Max

Slide control at the **Display** window. The maximum image intensity or counts that you want to display. All pixels in the image display with counts at this level or greater will be the color corresponding to the maximum intensity.

Adjust the maximum image intensity with the slide control on the right or by typing the numerical value in the box above the slide control.

Adjust the maximum image intensity to low values to see weak intensities; high intensity areas will become saturated with the color corresponding to the maximum intensity. Adjust the maximum image intensity to low values to see the details in high intensity areas.

Maximized

Application windows can occupy all or part of the computer screen. Maximize the screen area for image display by selecting the up arrow in the right hand corner of the InstantImager window.

Maximum Counts

Display at the **Image Information** window. The highest concentration of counts per pixel. The maximum pixel location is displayed in parenthesis.

Medium

Selection at the **Smooth Parameters** window. Applies a moderate amount of smoothing to the image.

Menu Bar

Located at the **InstantImager** window. The menu bar lists all available menu selections. Each menu offers a variety of selections and commands.

Min

Slide control at the **Display** window. Enables you to adjust the minimum image intensity or counts that you wish to display. All pixels in the image display with counts at this level or lower will be the color corresponding to the minimum intensity.

Adjust the minimum image intensity with the slide control on the left or by typing the numerical value in the box beneath the slide control.

Adjust the minimum image intensity to suppress the background. For example, if there are background counts in the image of one to three counts per pixel, you can suppress it by adjusting the minimum value to three.

Minimized

Applications can occupy all or part of the screen, or can be minimized to icons at the bottom of the screen. Minimize an application by selecting the down arrow at the upper right corner of the application's window. Restore the application by double clicking on the icon, by pressing <Alt>-<Tab> on the keyboard, or by choosing it in the Task list.

Molecular Weight

Entry box at the **Edit Lane Points** window. Enter the molecular weight of the selected lane point.

Molecular Weight

Selection at the **Lane Group Report Options Window**. Reports the molecular weights of the unknown regions. This option is grayed out if molecular weight standards have not been defined.

MWeight

Entry box at the **Add Standard to List** window. Enter the molecular weight of the standard.

NEW

Button at the **Imager Users** window. Displays the **User Information** window. This window enables you to add a new user icon to the system.

New Intensity Range

Slide control at the **Rescale Bitmap** window. Enables you to adjust the maximum or minimum intensity that you want displayed.

The maximum intensity must be changed with a discrete increment. The size of the increment depends on the number of colors or levels of gray in the display palette. You cannot make the maximum intensity larger than the maximum intensity in the image.

The minimum intensity can be changed by any increment. The minimum intensity can be set to suppress background in the display. This adjustment does not subtract background when you use templates for quantitation.

NEW USER

Button at the **System Operator** window. Displays the **User Information** window. Enables you to add a new user to the system.

NONE

Button at some windows. Deselects previously selected items in the window.

None

Selection at the **Smooth Parameters** window. No smoothing is applied. Returns the image to its original state if light, medium, or heavy smoothing has been applied.

OK

Button found on many windows. Initiates or completes an operation such as saving a template file, starting an acquisition, or generating a report.

Orientation (deg)

Entry box at the **Text Annotation** window. Enables you to adjust the orientation of the annotation text. Enter the value (expressed as degrees of rotation) in the entry box. The value that you enter can range from -360° to 360° .

Orientation (deg)

Entry box at the **Grid Template Parameters** window. Enables you to adjust the orientation of the grid if the sample is not placed in the instrument with a precise horizontal-vertical orientation.

Orientation (deg)

Entry box at the **Lane Template Parameters** window. Enables you to adjust the orientation of the template if the sample is not placed in the instrument with a precise horizontal-vertical orientation.

Orientation: Landscape

Selection at some windows. Prints the image with the top at the long edge of the form.

Orientation: Portrait

Selection at some windows. Prints the image with the top at the short edge of the form.

Origin (mm) X,Y

Entry boxes at the **Lane Template Parameters** window. Specify the X and Y coordinates of the outside edge of lane one. When creating a new template, these coordinates are near the center of the image as it appears on the screen.

Origin (mm) X,Y

Entry boxes at the **Grid Template Parameters** window. Specify the cursor coordinates on the image where the center of the cell A1 should be placed.

Owner

Entry box at the **Acquisition Start Parameters** window. The name or initials of the individual responsible for the acquisition.

Owner

The name of the person or group that "owns" the data. This is usually the name of the user assigned to the current user account.

Palette

The series of colors or shades of gray that can be displayed by the computer screen to represent color codes or image intensity levels in the computer screen bitmap.

PAR

Button at **Molecular Weight Standard Curve** window. Displays the **Standard Curve Parameters** window. This window enables you to select the curve fitting method and the axis transformation for the standard curve.

Password Protection

Selection at **System Operator** window. When enables, requires each user to enter their password before proceeding with an acquisition.

Pencil Tool

Located in the Annotation Area of the tool box (**InstantImager** window). The Pencil (pencil icon) enables you to draw line segments and arbitrary traces.

Pixel

A picture element in the image display that can display counts from the elements (microchannels) of the InstantImager detector.

PREFERENCES

Button at the **Imager Users** window. Select a user from the list and click on the **PREFERENCES** button to display the **User Preferences** window. This window enables you to customize the template color, annotation color, helpline color, update frequency, and intensity levels of display for the selected user.

Preset Region: Height

Entry box at the **Edit Acquisition Protocol File** window and the **Edit Current Protocol** window. Enter the number of cursor positions the region occupies along the invisible Y axis.

Preset Region: Left

Entry box at the **Edit Acquisition Protocol File** window and the **Edit Current Protocol** window. Enter the coordinate of the leftmost boundary of the region.

Preset Region: Top

Entry box at the **Edit Acquisition Protocol File** window and the **Edit Current Protocol** window. Enter the coordinate of the topmost boundary of the region.

Preset Region: Width

Entry box at the **Edit Acquisition Protocol File** window and the **Edit Current Protocol** window. Enter the number of cursor positions the region occupies along the invisible X axis.

PREVIEW

Button at the **Find Regions** window. Starts the find regions process. Deletes any pre-existing regions. Creates regions of interest based on the current parameters. Process bars will appear on the screen informing you of the % complete of the find regions process. You can terminate the find regions process by selecting **CANCEL** in any of the process bars. The regions will be displayed on the image so that you can see the results. These regions will not be a permanent part of the template until you select **ACCEPT**.

PREVIEW

Button at the **Text Annotation** window. Displays the annotation text as it will appear on the image.

Print Area: Entire Image

Selection at the **Print** window. Prints the entire image as it is displayed on the screen.

Print Area: Selected Region

Selection at the **Print** window. Prints a portion of the image that you select.

Print Image of Template Area

Selection at the **Region Group Report Options** window. Prints the area of the image within the rectangle that encompasses the group of regions on the report (reported only when you print the report). The template overlay is printed on the image if it is shown on the screen.

Print Image of Template Area

Selection at the **Lane Group Report Options** window. Prints the area of the image within the rectangle that encompasses the template on the report (reported only when you print the report). The template overlay is printed on the image if it is shown on the screen.

Print Image of Template Area

Selection at the **Grid Report Options** window. Prints the grid over which the selected template is placed when the report is generated. The image is printed at 50% of the actual size.

Profile Width (mm)

Entry box at the **Lane Template Parameters** window. Specify the width of lanes for use in profiles (in millimeters). Make the width of the profiles smaller than the spacing of the lanes. If the profile width is greater than the lane spacing, it (the profile width) will be set to the value specified for the lane spacing.

All the lanes will be set to the profile width. However, the widths of the individual lanes can be changed by editing them on the screen (graphically).

Protocol File

Entry box at the **Acquisition Start Parameters** window. Enter the name of the protocol file.

Protocol File

Entry box at the **Edit Acquisition Protocol File** window. Enter the name of the protocol file. By providing a descriptive name, the protocol becomes easy to identify for use in imaging or for editing. The protocol name appears in the selection windows (for editing and loading).

Quota [kilobytes]

Entry box at the **User Information** window. Enter the disk space in kilobytes that the user is allowed for data storage in the specified directory. (1 kilobyte equals approximately 1,000 bytes.) If in time the directory becomes too full, files should be removed from the directory.

Region Area

Selection at the **Region Group Report Options** window. Reports the area of each region in mm^2 .

Region Areas

Selection at the **Lane Group Report Options** window. Reports the area of each region in millimeters^2 .

Region Drop-Down Menu

Displayed in the template bar of the **InstantImager** window. When a region group or lane template is selected, displays the name of the region that is currently highlighted. Selecting the drop-down arrow displays a list of regions; select a region from the list.

Region Centroid (X,Y)

Selection at the **Region Group Report Options** window. Reports the coordinates (in mm) of the centroid of the counts in each region.

Region Labels

Selection at the **Region Group Report Options** window. Reports the labels (if any) that are used to identify the regions, as listed in the template bar or in the region tags on the image.

Region Labels

Selection at the **Lane Group Report Options** window. Reports the labels (if any) entered to identify the regions. The labels are listed in the template bar or in the region tags on the image.

Region Number

Selection at the **Region Group Report Options** window. Reports the region number as listed in the template bar or in the region tags on the image.

Region Numbers

Selection at the **Lane Group Report Options** window. Reports the region number as listed in the template bar or in the region tags on the image. Regions are numbered in the order they are created.

Region of Interest (ROI)

Most samples, including two dimensional TLC plates, two dimensional electrophoresis gels, and tissue sections can be quantitated by placing regions of interest (ROI) on the image. The regions are grouped in templates.

Region Shape

Selection at the **Region Group Report Options** window. Reports the shape of each region: ellipse, rectangle, or irregular.

Region Shape: Elliptical

Selection at the **Find Regions** window. Creates elliptically shaped regions.

Region Shape: Irregular

Selection at the **Find Regions** window. Creates irregularly shaped regions.

Region Shapes

Selection at the **Lane Group Report Options** window. Reports the shape of each region: ellipse, rectangle, irregular, profile, or band.

Region Tag: Label

Selection at the **Lane Template Parameters** window. Select this option to tag the regions on the image with user-defined labels.

Region Tag: Number

Selection at the **Lane Template Parameters** window. Select this option to tag the regions on the image with the region number. Regions are always numbered from the origin of the template.

Region Tag: Molecular Weight

Selection at the **Lane Template Parameters** window. Select this option to tag the regions on the image with the molecular weight. If the molecular weight standards are not defined, the regions are identified with numbers.

Region Type: Unknown/Background

Selections at the **Edit Region** window. Select the region type: Unknown or Background. Regions are created as unknown or background depending on the region qualifier selected in the tool box when the region is drawn.

REPORT OPTIONS

Button at the **Lane Template Parameters** window. Displays the **Lane Group Report Options** window.

REPORT OPTIONS

Button at the **Edit Group of Regions** window. Displays the **Region Group Report Options** window.

REPORT PARAMETERS

Button at the **Grid Template Parameters** window. Displays the **Grid Report Options** window.

Rescale: Auto/Local

Button at the **Display** window. Enables you to optimize the display automatically to the intensities in a specific region of interest in the image. The pointer becomes a bracket; use the bracket to draw a rectangle around the area.

Rescale: Manual

Button at the **Display** window. Displays the **Rescale Bitmap** window. This window enables you to scale the image display to any range within the range of counts in the image.

Review Report Options

Button at the **Template Report** window. Displays the Report Options windows for all the selected templates before the report is created. Changes can be made to the lists of report options. The default for this option is always what was selected last.

Rf

Selection at the **Lane Group Report Options** window. Reports the Rf as a value between 0 and 1, with 0=0% and 1=100%. The Rf value is the distance from the line of origin to the top-most spot in the image. It is also the distance from the bottom of the template to the bottom-most spot in the image (within the template).

Rf: Front (mm)

Entry box at the **Lane Template Parameters** window. Specify the distance (in millimeters) from the top of the template to the solvent front (within the template).

Rf: Origin (mm)

Entry box at the **Lane Template Parameters** window. Specify the distance (in millimeters) from the top of the template (line of origin) to the sample origin in the image (within the template).

Sample Cover

The sample cover is placed on top of the sample. The sample cover is a plastic sheet in a plastic frame. The sample cover protects the detector from contamination. The sample cover can be secured at the base of the sample plate.

Sample Drawer

The sample drawer can be pulled out for easy sample loading. The sample drawer is comprised of the sample plate, sample tray, and sample cover. Also provided are the airbag and the sample support pad.

Sample Plate

The sample plate cannot be removed from the drawer. You can place the sample on the sample plate. A cover can be placed on top of the sample plate to protect the sample plate from contamination.

A grid is etched into the surface of the sample plate. The grid enables you to determine the position of the sample relative to the screen. When the sample sits on the sample plate, the left rear corner of the sample (as you face the instrument) corresponds to the upper left corner of the screen.

Sample Support Pad

The sample support pad fits comfortably on the sample plate. A silk screened image of the grid that appears on the sample plate also appears on the sample support pad. Place the sample directly on the pad.

Sample Tray

The removable sample tray fits comfortably on the sample plate and allows you to prepare a sample away from the instrument. The sample can be prepared directly on top of the tray. Once the sample has been prepared, place the sample tray on top of the sample plate.

Save As Default

Selection at the **Find Regions** window. If this checkbox is selected when you close the **Find Regions** window by accepting a set of previewed regions, the current parameter setting will be saved as the default settings.

Save Image Every (Interval)

Selection at the **Edit Time Series** window. This is the interval to be used for the Time Series Acquisitions (see page R200). You can enter a value between one minute and 540 hours in any combination of hours and minutes. When you change fields, the hours and minutes will be recalculated to display in proper notation.

Scale Bitmap for Large Dynamic Range

Selection at the **Rescale Bitmap** window. Enables you to scale the bitmap exponentially. Useful when you want to see detail in areas of low activity and high activity in the same image.

The value of the exponent will range linearly from 1.00 on the left (labeled "Linear") to 0.10 on the right (labelled "Large Range"). You can modify the exponent by using the slide control, or by manually entering a number in the entry box. The slide control will modify the exponent value in increments of 0.1. Sliding the control to the left will improve the clarity of areas of low counts. Sliding the control to the right will improve the clarity of areas of high counts.

Sensitivity

Selection at the **Find Regions** window. Enables the system to detect regions. The more sensitivity (the higher the number), the more regions that will be found and created.

Separation

Selection at the **Find Regions** window. Determines how many pixels are included in each region of interest (those pixels that contain the most significant number of counts). The higher the number, the greater degree of separation.

SETUP

Button at the **Print** window. Displays the **Print Setup** window. This window enables you to select a printer that you want to configure.

Size

Selection list at the **Font** window. Select a suitable point size by clicking on the number in the list. An example of the point size is displayed in the Sample area of the window.

Smoothing an Image

The **Smooth Parameters** window enables you to specify the amount of smoothing you want applied to the image. Smoothing only affects the display. It does not permanently change the original copy of the image.

You should try each category (light, medium, or heavy) to find the amount of smoothing that is right for the image.

You can select **None** to return the image to its original state.

STANDARDS

Button at the **Edit Lane Points** window. Displays a list of molecular weight standards. Copy all or selected standards from the list.

Statistical Error

Selection at the **Region Group Report Options** window. Reports the two sigma statistical counting error in percent.

When Background Subtraction is selected:

$$200 * \frac{\sqrt{\text{Gross Counts} + \text{Background Counts}}}{(\text{Gross Counts} - \text{Background Counts})}$$

When no Background Subtraction is selected:

$200/n^{1/2}$ where n is the counts in the region.

Statistical Error

Selection at the **Lane Group Report Options** window. Reports the statistical counting error in percent.

Subject

Display at the **Image Information** window. The image's main area of interest.

Subject

Entry box at the **Acquisition Start Parameters** window. Enter the image's main area of interest.

Style: Closed Arrow

Selection at the **Edit Arrow** window. Select this option to display a solid arrow.

Style: No Arrow

Selection at the **Edit Arrow** window. Select this option to hide the arrow from view.

Style: Open Arrow

Selection at the **Edit Arrow** window. Select this option to display the arrow as a caret symbol (>).

SWITCH TO

Button at the **Task List** window. Runs the application that is currently highlighted in the list.

SYSTEM PASSWORD

Button at the **System Operator** window. Enables you to change the system password.

Tab Delimited

Tab characters are placed between items in row of a text in a report to organize the items into columns. Report files are then automatically parsed into columns in spreadsheet programs.

Tag Position: Right, Left, Above, Below, Center

Selections at the **Edit Region** window. Select the placement of the tag relative to the position of the region: to the Right, Left, Above, Below, or Center.

Tag Type: Counts

Selection at the **Edit Group of Regions** window. Select this option to have the system automatically display the gross counts next to each region.

Tag Type: Region Number

Selection at the **Edit Group of Regions** window. Select this option to have the system automatically number the regions in the group. The regions are numbered consecutively in the order they are created.

Tag Type: Region Label

Selection at the **Edit Group of Regions** window. Select this option to display user-defined labels next to the regions.

Tag Type: None

Selection at the **Edit Group of Regions** window. Select this option if you want no region tags displayed or printed.

Template Bar

Located at the **InstantImager** window. The template bar contains a row of command buttons and the following selection drop-down menus: 1) Template, 2) Lane, 3) Region, and 4) Label.

Template menu: displays the name of the template that is currently highlighted. Selecting the drop-down arrow displays a list of templates; select a template from the list.

Lane menu: when a lane template is selected, displays the name of the lane that is currently highlighted. Selecting the drop-down arrow displays a list of lanes; select a lane from the list.

Region menu: when a region group or lane template is selected, displays the name of the region that is currently highlighted. Selecting the drop-down arrow displays a list of regions; select a region from the list.

Label box: enables you to assign a name to the highlighted lane or region; useful for reporting purposes.

Template Color

Selection at the **User Preferences** window. Several templates can be present on an image. The selected template ("Selected") is displayed in a highlighted color while the remaining template(s) ("Other") are displayed in a dimmed uniform color.

To specify a color, click on the appropriate **EDIT** button; then select a color at the **Color** window. Select **OK** to save the setting. The current colors for templates are indicated by the colors of the words "Selected" and "Other."

Template Drop-Down Menu

Located in the template bar of the **InstantImager** window. Displays the name of the template that is currently highlighted. Selecting the drop-down arrow displays a list of templates; select a template from the list.

Template File

Entry box at some windows. Enter the name of the template file you want placed over the image. The template is automatically placed over the image during processing. This feature is useful for images that have predictable patterns, such as microtiter plates. Automatically loading the template eliminates the need to create and load a template once the image has been developed.

Template Tag

Numbers or labels attached to analysis templates or template objects for identification and selection. Click on the tag to select the object. Double click on the tag to select and edit it.

Template Tools

Drawing tools in the tool box that are used to create regions of interest on the image. There are three sets of tools which are specific to the three types of Analysis Templates.

Template Type: Grid

Selection at the **Create Template** window. Displays the **Grid Template Parameters** window.

Template Type: Group of Regions

Selection at the **Create Template** window. Displays the **Edit Group of Regions** window.

Template Type: Lane

Selection at the **Create Template** window. Displays the **Lane Template Parameters** window.

Text Tool

Located in the Annotation Area of the tool box (**InstantImager** window). The text tool (alpha icon) enables you to write comments upon the image.

Threshold [CPM]

Entry box at the **Grid Report Options** window. Enter the CPM threshold value. The output of each cell is set to "+" or "-" depending on whether the CPM in the cell is greater than or less than the value you enter.

TILE

Button at the **Task List** window. Arranges open windows in smaller sizes to fit next to each other on the desktop.

Time Series Acquisitions

Time Series Acquisitions consist of a series of images acquired at specified time intervals over the duration of the acquisition. The resulting series of images can be used to study the kinetic aspects of the sample in question, such as the migration of activity through plant or tissue samples. The dynamic changes in the sample can be seen and measured from one image in the series to the next.

Time Series Acquisition Images are saved to filenames with incrementing names. Up to the first six characters of the Image File name that you enter on the Acquisition Start Parameters dialog are used to create this incrementing name. A two digit incrementing number from 00 to 99 is appended to the end of the six character (or less) file name. The system checks your disk to find the next available number for the series.

Cumulative images are accumulated for ever increasing amounts of time as the intervals elapse. For example, with an interval of 30 minutes and a preset time of 4 hours, 8 image files will be acquired. The first image file reflects the accumulation during the first 30 minutes. The second file reflects the accumulation for the first hour. The third file contains data accumulated for 90 minutes. This continues until the last image is acquired and represents data accumulated for the entire 4 hour elapsed time.

Individual images, as compared to cumulative images described above, restart with EVERY interval. Given the same example described above, but with Individual selected, the first image file would reflect the accumulation for the first 30 minutes, just like the Cumulative acquisition. The second image file, however, contains the accumulation for the second 30 minute interval ONLY. The third file contains data accumulated during the third 30 minute interval ONLY. This continues, with each file containing ONLY a 30 minute accumulation until the entire 4 hour acquisition time has elapsed.

Time Series Acquisitions are a user based function, and are NOT protocol dependent. Once you enable Time Series for a given user, the acquisitions for ALL protocols of that user will use the Time Series mode until you disable it again. You may find that you want to create a separate Time Series User, just for this purpose.

TIME SERIES

Button at the **Acquisition Start Parameters** window. Enables you to access the **Edit Time Series** window to modify the Time Series mode parameters.

Time Series Warning

The **Time Series** warning window appears if you try to start a Time Series acquisition when there is not enough free space on your computer to store all of the images required. The system attempts to calculate the number of image files that will be generated, and how much disk space they will require. You must correct the situation before you can start the acquisition.

Title Bar

The bar at the top of windows that contains the title of the window. The title bar of the active window will be highlighted. Click and drag on the title bar to move the window. Double click on the title bar to maximize a window.

Tool Box

The tool box is located at the **InstantImager** window. The tool box is always displayed to the left and cannot be moved. It is divided into two areas: Display and Annotation. Each area contains selectable icons.

The Display area contains the Pointer icon, the Magnifying Glass icon, and the Hand icon. Use the Pointer tool to identify the counts in every pixel of the image and make selections from menus and the tool box; use the Magnifying Glass tool to magnify (zoom) and demagnify the image; use the Hand tool to move the image around the screen.

The Annotation area contains the Pencil icon, Arrow icon, Text Tool icon, and Eraser icon.

The Pencil tool enables you to draw line segments and arbitrary traces. The Arrow tool enables you to draw arrows that point to specific items of interest on the image. The Text tool enables you to write comments upon the image. The Eraser tool enables you to erase annotations.

Transform the Image

When you transform an existing image (using the functions listed in the **Transform** menu), the system will automatically display the **Save Image As** window when you go to save the image. You must assign the file a new name. This feature enables you to keep a copy of the original unaltered image on the system.

You can transform the image by:

- Rotating it 90° counterclockwise.
- Rotating it 180° counterclockwise.
- Rotating it 270° counterclockwise.
- Reflecting the image by moving the top to the bottom.
- Reflecting the image by moving the left side to the right.
- Cropping the image (see *Crop Image*, this chapter).
- Converting the image to a high resolution display (see *High Resolution*, this chapter).

Transformation: Log [MW] vs Distance

Selection at the **Standard Curve Parameters** window. Takes the log of each molecular weight and the distance of each standard to plot the standard curve.

Transformation: MW vs Distance

Selection at the **Standard Curve Parameters** window. Takes the molecular weight and distance of each standard to plot the standard curve. This is the default axis transformation.

Transformation: MW vs 1/Distance

Selection at the **Standard Curve Parameters** window. Takes the molecular weight and the inverse of the distance of each standard to plot the standard curve.

Selection at the **Edit Lane Points** window. Changes the type of the selected lane point to a background. BCK is listed in the Type column.

Type: Standard

Selection at the **Edit Lane Points** window. Changes the type of the selected lane point to a standard. STD is listed in the Type column.

Type: Unknown

Selection at the **Edit Lane Points** window. Changes the type of the selected lane point to an unknown. UNK is listed in the Type column.

Units

Selection list at the **Edit Lane Points** window. Select the drop-down arrow to display a list of standards units. Select a unit from the list. The selected unit is applied to the molecular weights listed in the window.

Update Frequency

Selection at the **User Preferences** window. During an acquisition, the image is periodically updated to the screen. It is possible to change the frequency of these updates.

Selecting "Seldom" sets the update frequency value to 15. This means that the first update will occur 15 seconds after the acquisition begins and increase by 1 second for every 15 seconds that elapse from the start of the acquisition. The net effect is that each update is performed at ever increasing intervals during the acquisition until a maximum interval of 5 minutes is reached.

Upper Left: X(mm), Y(mm)

Entry boxes at the **Edit Region** window. Edit the X and Y coordinates of the upper left corner of an ellipse or rectangle, or of the origin of an irregular region.

Usage Logging

Selection at **System Operator** window. When enabled, maintains a record of all acquisitions in a usage log file.

Use as Default

Selection at the **Lane Template Parameters** window. Select the check box if you want to use the current parameters every time you create a template.

Use as Default

Selection at the **Edit Group of Regions** window. Select the check box if you want the current parameters to be used every time you create a group of regions.

Use as Default

Selection at the **Edit Acquisition Protocol File** window. Select this check box to specify the current protocol as default. The default protocol is automatically loaded when you start the acquisition.

Use as Default

Selection at the **Grid Template Parameters** window. Select the check box if you want the current parameters to be used every time you create a grid.

Use as Default Palette

Selection at the **Custom Palette** window. If this checkbox is selected when you close the window, then the current values of the graph's five points will be saved as the default parameters. These parameters will be used to create the default palette when the window is first opened for an image.

User Account

A program icon and user directory for an individual or group of individuals. The user account provides a personalized environment and data storage area (see User Directory). You can create a user account with the Image User utility.

You can start the InstantImager program by double clicking on your personal icon in the Window's Start Menu or Program Manager.

User Directory

A directory on the hard disk below the main imager directory that is assigned to a user or a group of users in which to store image and analysis data, protocols, analysis templates, reports, and information to provide a customized environment.

User Password Access

Selection at **System Operator** window. When enabled, allows any user to: 1) enter a password for a new user, and 2) change the password of an existing user.

VIEW

Button at the **Users Images** window. Enables you to see the selected image.

Width (mm)

Entry box at the **Edit Region** window. Edit the width of a rectangle or ellipse. This box is blank when the region is irregular. The width of the region is measured in millimeters.

Width: Narrow

Selection at the **Edit Arrow** window. Select this option to narrow the normal width arrow.

Width: Normal

Selection at the **Edit Arrow** window. Select this option to display the standard width arrow.

Width: Wide

Selection at the **Edit Arrow** window. Select this option to exaggerate the normal width of the arrow.